

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. Contract ID Code Cost-Plus-Fixed-Fee		Page 1 Of 3	
2. Amendment/Modification No. 0006		3. Effective Date 2009MAR13		4. Requisition/Purchase Req No. SEE SCHEDULE		5. Project No. (If applicable)	
6. Issued By U.S. ARMY CONTRACTING COMMAND AMSCC-TAC-ABGD PAUL VESELENAK (586)574-7632 WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL EMAIL: PAUL.VESELENAK@US.ARMY.MIL		Code W56HZV		7. Administered By (If other than Item 6) Code			
				SCD PAS ADP PT			
8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code)				<input checked="" type="checkbox"/>		9A. Amendment Of Solicitation No. W56HZV-09-R-0089	
				<input type="checkbox"/>		9B. Dated (See Item 11) 2009JAN22	
				<input type="checkbox"/>		10A. Modification Of Contract/Order No.	
				<input type="checkbox"/>		10B. Dated (See Item 13)	
Code		Facility Code					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing items 8 and 15, and returning <u>2 signed</u> copies of the amendments: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. Accounting And Appropriation Data (If required)							
13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS It Modifies The Contract/Order No. As Described In Item 14.							
<input type="checkbox"/> A. This Change Order is Issued Pursuant To: The Changes Set Forth In Item 14 Are Made In The Contract/Order No. In Item 10A.							
<input type="checkbox"/> B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).							
<input type="checkbox"/> C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:							
<input type="checkbox"/> D. Other (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the Issuing Office.							
14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
SEE SECOND PAGE FOR DESCRIPTION							
<p>Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.</p>							
15A. Name And Title Of Signer (Type or print)				16A. Name And Title Of Contracting Officer (Type or print)			
15B. Contractor/Offeror		15C. Date Signed		16B. United States Of America		16C. Date Signed	
(Signature of person authorized to sign)				By _____ /SIGNED/		(Signature of Contracting Officer)	
NSN 7540-01-152-8070 PREVIOUS EDITIONS UNUSABLE				30-105-02		STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243	

CONTINUATION SHEET	Reference No. of Document Being Continued PIIN/SIIN W56HZV-09-R-0089 MOD/AMD 0006	Page 2 of 3
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Name of Offeror or Contractor:

- SECTION A - SUPPLEMENTAL INFORMATION
- The purpose of this Solicitation Amendment 0006 is to update Section J of Solicitation W56HZV-09-R-0089 to provide revised Task Orders 0001 (Attachment 0001), 0002 (Attachment 0002), 0003 (Attachment 0003) and 0004 (Attachment 0004).
 - To implement the above purpose Section J of the solicitation is revised as follows:
 - Attachment 0001
Attachment 0001 is changed to revise the previous Task Order 0001 and provide a new, updated Task Order 0001.
 - Attachment 0002:
Attachment 0002 is changed to revise the previous Task Order 0002 and provide a new, updated Task Order 0002.
 - Attachment 0003:
Attachment 0003 is changed to revise the previous Task Order 0003 and provide a new, updated Task Order 0003.
 - Attachment 0004:
Attachment 0004 is changed to revise the previous Task Order 0004 and provide a new, updated Task Order 0004.
 - Amendment 0006 does NOT extend the due date for proposals under Solicitation W56HZV-09-R-0089. That due date remains 3:00 PM (local time), March 24, 2009, as stated in previous Solicitation Amendment 0005.
 - All other terms and conditions of Solicitation W56HZV-09-R-0089, as previously amended, remain unchanged.

*** END OF NARRATIVE A0006 ***

Name of Offeror or Contractor:

SECTION J - LIST OF ATTACHMENTS

<u>List of</u> <u>Addenda</u>	<u>Title</u>	<u>Date</u>	<u>Number</u> <u>of Pages</u>	<u>Transmitted By</u>
Attachment 0001	TASK ORDER 0001	13-MAR-2009	002	
Attachment 0002	TASK ORDER 0002	13-MAR-2009	002	
Attachment 0003	TASK ORDER 0003	13-MAR-2009	002	
Attachment 0004	TASK ORDER 0004	13-MAR-2009	002	

U.S. Army Tank Automotive-Automotive Research, Development and Engineering Center (TARDEC)

Task Order No: 0001

1. Task Assignment Title: FSP Launcher for Survivability Armor Ballistic Laboratory (SABL)
2. Basic Contract Reference: C.6.10.1 Infrastructure, Laboratories and Equipment Support
3. Objective:

The Survivability Armor Ballistic Laboratory (SABL) requires a new Fragment Simulating Projectile (FSP) launcher for ballistic tests. The contractor shall design, integrate, build, install, and certify the new launcher.

4. Statement of Work / Description of Task Order:

The contractor shall provide a high speed powder gun system capable of firing the 20mm FSP, 131W Long Rod, and the 30mm Honeywell (RARDEN) to test impact velocities of 4,000 to 5,900 feet per second with an acceptable standard deviation of plus or minus 20 feet/second.

- a. The system shall be designed to have a bore center-line 48 (inches) (1,220 mm) from floor. The barrel life shall be no less than 500 rounds when fired with full pressure charges.
- b. The system accuracy shall be capable of shooting ten shots with each projectile, within a 60 mm diameter circle (measured from the center of the shots) at the maximum test range with total projectile yaw of no more than 5 degrees. The system must be able to achieve this accuracy requirements when placed anywhere between 15 ft and 50 ft from the target.
- c. The system shall be no larger than 40 (inches) wide and 60(inches) high and 240 (inches) long.
- d. The system shall be capable of firing four shots per hour.
- e. The system accuracy and total yaw shall be demonstrated prior to shipment for ten shots.
- f. The contractor shall supply envelope (outside) dimensions of the system prior to award of the task order.
- g. Vendor shall supply a second barrel. Additional barrels beyond this will be purchased by the government on an as needed basis. SABL personnel inspect the barrel daily for signs of degradation and if it is determined that the barrel is no longer capable of providing adequate performance, the barrel will be replaced.
- h. The contractor shall install the gun system on a mount that is provided by the contractor. The mount must be reviewed and approved by SABL staff prior to installation. The mount will be secured to the cement floor of the SABL using appropriate fasteners. Installation of the rail to the floor will be supervised by SABL staff. Firing of the electromechanical gun system must be from the control room of the SABL. The vendor shall demonstrate the performance of the launcher after it has been installed in the SABL.
- i. Mass fragment is 830 grains.
- j. The length of the firing range is 100 feet.

5. ITEMS and DATA TO BE DELIVERED: _

Complete Projectile Launcher with Installation

CDRL A009 - Contractors Progress, Status and Management Report (Due every 30 days)

CDRL A012 Product Drawings, Models and Associated Lists (Due every 30 days)

CDRL A007 Scientific and Technical Report (Due by task order completion)

6. SITE Location: Warren, Michigan

7. TEST REQUIREMENTS: Certify accurate, sustainable, and maintainable performance at velocities of 4,000 to 5,900 feet per second

8. PERIOD OF PERFORMANCE: 90 days after receipt of task order.

9. TECHNICAL POC: To be determined

10. GOVERNMENT FURNISHED INFORMATION / PROPERTY:

20mm Sabot.pdf

Task Order 1 drawings.pdf

11. SECURITY CLASSIFICATION: UNCLASSIFIED

U.S. Army Tank Automotive-Automotive Research, Development and Engineering Center (TARDEC)

Task Order No: 0002

1. Task Order Assignment Title: Material Characterizations for EPIC Material Library

2. Basic Contract Reference: C.5.5 Surge Support for Engineering and Technical Management

3. Objective:

The contractor shall perform material characterizations sufficient for developing Johnson-Cook constitutive strength and damage constants to be used for ballistics, blast, and other types of modeling and simulation. The contractor shall also provide constitutive constants to the COR by 12 months after task order issuance, for input into the Elastic Plastic Impact Code (EPIC) material library.

4. Statement of Work/ Description of Task Order: Metallic Armor Materials Evaluation Studies

4.1 The contractor shall provide materials, machine samples, and conduct characterization experiments, using the Johnson-Cook constitutive strength and fracture models. The following materials will be characterized:

- a. Aluminum 5059-H131
- b. Aluminum 2519-T87
- c. Aluminum 2195-BT
- d. Aluminum 2139-T8

4.2 Characterization testing will include: smooth and notched (B and E notch) tensile tests (2 strain rates), Split-Hopkinson Pressure Bar (SHPB) tensile tests (2 strain rates), SHPB compression tests (2 strain rates) at *room temperature and elevated temperature (between 160 and 320 degrees centigrade), torsion tests (2 strain rates), and Taylor impact tests at a minimum of 5 impact velocities. The contractor shall conduct multiple tests (minimum of 2) per test condition, except for the Taylor impact tests. The contractor shall machine additional test specimens of each type for use as a replacement in the event of a testing anomaly or mishap. Contractor shall determine Johnson-Cook constitutive strength and damage constants based on these tests, and shall validate the Johnson-Cook parameters using the Taylor impact data. Contractor shall provide a comprehensive report describing test results, parameter identification, and material model validation to the COR.

*Room and elevated temperature applies to SHPB compression tests only.

4.3 Damage Model Assessment for Ductile Alloys

The contractor shall evaluate the type of failure modes for lightweight alloys of current interest (e.g., Al-2519, Al-2195) to TARDEC using available ballistic and laboratory characterization data. This may include microscopy evaluations of tested specimens plates to evaluate failure mechanisms.

The contractor will assess existing damage models (e.g., Wilkins, Gurson, Wierzbicki, etc.) to determine:

- a. Applicability (pros/cons) to ductile materials
 - b. Experiments required to obtain constants for the models of interest. Note: These experiments are in addition to those that are being conducted to determine Johnson-Cook damage model parameters.
- The contractor will evaluate available data to determine its usefulness for the damage models (e.g., Wilkins, Gurson, Wierzbicki) of most interest. This includes published data and recently-acquired experimental data for some of the alloys of interest. If sufficient data is not available to determine damage constants, the extent of testing required will be determined. Based on these tasks, the contractor will select the most applicable damage model. A cost and schedule estimate will be provided for determining the model constants and implementation of the alternative damage model. The required damage characterization experiments will be structured such that the experiments for determination of Johnson-Cook damage constants are a subset of the necessary experiments.

5. ITEMS and DATA TO BE DELIVERED:

5.1 Contractor shall provide a comprehensive report describing test results, parameter identification, and material model validation to the COR in accordance with CDRL A007 by the task order completion date (see paragraph 8 below).

5.2 Contractor shall provide monthly progress reports in accordance with CDRL A009, Contractors Progress, Status and Management Report (Due every 30 days).

6. SITE Location: Contractors Facility

7. TEST REQUIREMENTS: Perform ductile material testing per paragraphs 4.1, 4.2, and 4.3, above.

8. PERIOD OF PERFORMANCE: 12 months after task order award

9. TECHNICAL POC: To be identified at task order award

10. GOVERNMENT FURNISHED PROPERTY: None

11. SECURITY CLASSIFICATION: UNCLASSIFIED

U.S. Army Tank Automotive-Automotive Research, Development and Engineering Center (TARDEC)

Task Order No: 0003

1. Task Order Assignment Title: Integrated Collaboration and Analysis Process (ICAP)

2. Basic Contract Reference: C.3.2 TARDEC Lifecycle Support Phases

3. Objective: To provide with ground vehicle maintenance expertise support for the integrated corrective action team. For purposes of estimating this task use 2,080 hours of technician labor for a one year period of performance.

4. Statement of Work / Description of Task Order

The contractor shall perform process related tasks for the Integrated Corrective Action Team (ICAT) in the Engineering Business Group to support the Integrated Collaboration and Analysis Process (ICAP). The person(s) assigned to this task must possess a minimum of five (5) years of military ground vehicle maintenance experience. The contractor shall utilize this experience to provide hands-on knowledge to TARDEC engineers in order to determine realistic, workable solutions to HMMWV field issues.

The contractor shall:

Track MRAP field issues in Windchill for overdue dates, workflow obstacles, or inactivity. Meet with MRAP program managers, engineers, action officers, and technical support personnel to determine issue progress and obtain resolutions.

Research technical manuals and bulletins for procedures and part numbers pertinent to the Bradley family of vehicles and to ensure that field support personnel are provided the most current information to address field issues.

Document discussions and provide solutions during field issue meetings with PM-LTV, and TARDEC engineers and subject matter experts.

Possess a minimum of 5 years of military ground vehicle maintenance experience. The contractor shall utilize this experience to provide hands-on knowledge to TARDEC engineers in order to determine realistic, workable solutions to HMMWV field issues.

Provide status updates and details of work for ICAT projects through written reports, verbal briefs, or PowerPoint presentations.

Analyze quarterly AMSAA reports and briefings, and provide synopses that consider content accuracy and practicality and make suggestions for improvements or additions to the report.

Conduct and analyze Voice of the Customer Interviews with program managers, engineers, and subject matter experts relative to ICAP to make process and product improvements that improve TARDEC customer support.

Participate as SME in Failure Mode Effects Analyses (FMEA) events used to manage risk. For planning purposes, there are 6-8 FMEA events per year.

Current customers include PM HBCT, JPO MRAP, PM LTV, and other TARDEC teams such as the Quick Reaction Cell, Ground Vehicle Integration Center (GVIC), Concept Analysis System Simulation & Integration (CASSI), the Strategic Transformation Cell and the Systems Engineering (SE) Team.

Current ICAP projects include:

Bradley Urban Survivability Kit II
Bradley Modernization
Bradley Mobile Battle Command on the Move
Bradley Operation Desert Storm Situational Awareness
Bradley Reactive Armor Side Skirts
Bradley Emergency Egress
Bradley Fuel Cell
MRAP Trade Studies
MRAP Field Issue Tracker
MRAP Navistar Field Issue Resolution
MRAP RG31 Field Issue Resolution
MRAP Gunners Restraint System Integration
MRAP Demilitarization
HMMWV Pulse Jet Air Cleaner

5. ITEMS and DATA TO BE DELIVERED:

- A. CDRL A006 (TECHNICAL REPORT), DUE AT TASK ORDER COMPLETION (SEE PARAGRAPH 8)
 - B. CDRL A007 (SCIENTIFIC AND TECHNICAL REPORT), DUE EVERY 90 DAYS
 - C. CDRL A009 (CONTRACTORS PROGRESS, STATUS AND MANAGEMENT REPORT), DUE MONTHLY
 - D. CDRL A010 (STATUS REPORT), DUE EVERY 90 DAYS
6. SITE Location: TARDEC, Warren, MI
7. TEST REQUIREMENTS: Not Applicable
8. PERIOD OF PERFORMANCE: 1 work-year, the equivalent of 2,080 hours in one year.
9. TECHNICAL POC: To be identified at task order award
10. GOVERNMENT FURNISHED PROPERTY Desk, computer, LAN drop and telephone with voicemail
11. SECURITY CLASSIFICATION: Technician must be able to obtain Secret Security Clearance

U.S. Army Tank Automotive-Automotive Research, Development and Engineering Center (TARDEC)
Task Order No: 0004

1. Task Assignment Title: Develop Program Management Standard Systems Engineering and Project Planning Process

2. Basic Contract Reference: C.5.2, C.5.2.3.1

3. Objective:

To develop a capability tool which will provide a structured and tailorable approach to guide systems engineers and program/project managers through the project and systems engineering planning process as applicable to Army Technology Objective (ATO) Programs and Program Executive Office (PEO)/Program Managers Office (PMO) managed acquisition programs for all phases of the acquisition Life Cycle.

4. Statement of Work / Description of Task Order

The contractor shall develop a capability tool that can be used by systems engineers and program/project managers as a guide to conduct systems engineering and project planning. The capability tool shall guide the user to select planning activities and arrange those activities in to an ordered, logical, time and resource efficient process.

The capability tool shall allow the user to select planning activities from a collection of best planning practices identified by the contractor.

The capability tool shall provide access to a comprehensive, detailed description for each planning activity to guide the practitioner through the conduct of that activity.

The capability tool shall provide the ability to visually represent the user selected planning activities into a tailored process/workflow identifying the order of execution of those activities.

The process workflow shall be represented in such a manner that the reader shall be able to determine key triggering events, entrance criteria, exit criteria, metrics, inputs, outputs, enabling factors (e.g. artifacts, information, etc.), roles and responsibilities, processes, methods, tools, and interdependencies with other planning activities for each workflow element.

Within 15 days of task order award, the contractor shall conduct a start of work meeting to present their strategy for addressing this scope of work. This meeting shall be coordinated with the assigned technical representative and held at the government facility.

The contractor shall conduct requirements gathering meeting(s) to capture voice of the customer requirements within 30 days after the start of work meeting.

The contractor shall conduct a requirements review meeting to baseline the customer requirements within 45 days of the start of work meeting.

The Start of work, Requirements gathering and Requirements review meetings shall be coordinated with the assigned technical and contracting officer representatives to be held at the government facility.

The contractor shall conduct monthly Interim Process Review (IPRs) with the customer to assess progress. These meetings will be informal, face-to-face meetings, with the government technical representative and COR.

The contractor shall deliver the capability tool for government review and approval no later than 180 days after task order award.

Upon delivery of the capability tool, the contractor shall conduct a final presentation and demonstration, in accordance with CDRL A005.

Prior to the final approval, the contractor shall conduct training to verify the ease of use of the capability tool. The minimum amount of training will include two government employees, the technical representative and the Contracting Officer Representative.

The contractor shall deliver the capability tool in electronic format suitable for hosting on TARDEC intranet and Virtual Collaborative Environments.

5. ITEMS and DATA TO BE DELIVERED:

Systems Engineering Project Planning Capability Tool (Due at task order completion)

Final presentation (Due at task order completion)

CDRL A0009 - Contractors Progress, Status and Management Report (Due every 30 days)

CDRL A0010 - Status Report (Due upon task order completion)

- 6. SITE Location: Contractor Facilities
- 7. TEST REQUIREMENTS: N/A
- 8. PERIOD OF PERFORMANCE: 180 Days
- 9. TECHNICAL POC: To be identified at task order award.
- 10. GOVERNMENT FURNISHED PROPERTY: N/A
- 11. SECURITY CLASSIFICATION: Unclassified